

WHAT IS CLAIMED IS:

1. A bottom valve apparatus of a hydraulic shock absorber comprising:

a bottom piece;

5 a flow passage formed in the bottom piece;

a check valve opening and closing the flow passage;

a spring urging the check valve;

the check valve and the spring being fixed to one face side of the bottom piece by a fixing member,

10 wherein the check valve and the spring are subassembled in the fixing member.

2. The bottom valve apparatus of a hydraulic shock absorber according to claim 1, wherein a projection is provided in an outer
15 periphery of the fixing member, and a centering projection in an inner periphery of the check valve is arranged and constructed to overcome the projection of the fixing member by elastic deformation, wherein the centering projection of the check valve is supported by the projection of the fixing member.

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3. The bottom valve apparatus of a hydraulic shock absorber according to claim 1, wherein the fixing member is constituted by a bolt and a nut screwed with the bolt, the projection is provided in a lower end portion brought into contact with the bottom piece along an outer
25 periphery of the nut, and the check valve and the spring are previously subassembled in the nut.

4. The bottom valve apparatus of a hydraulic shock absorber according to claim 2, wherein the fixing member is constituted by a bolt and a nut screwed with the bolt, the projection is provided in a lower end portion brought into contact with the bottom piece along an outer
5 periphery of the nut, and the check valve and the spring are previously subassembled in the nut.

5. The bottom valve apparatus of a hydraulic shock absorber according to claim 1, wherein the spring comprises a coil spring.

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6. The bottom valve apparatus of a hydraulic shock absorber according to claim 2, wherein the spring comprises a coil spring.

7. The bottom valve apparatus of a hydraulic shock absorber
15 according to claim 3, wherein the spring comprises a coil spring.

8. The bottom valve apparatus of a hydraulic shock absorber according to claim 4, wherein the spring comprises a coil spring.

20 9. The bottom valve apparatus of a hydraulic shock absorber according to claim 3, wherein the projection of the nut comprises a flange-like entire-peripheral projection extending over an entire periphery of the outer periphery of the nut.

25 10. The bottom valve apparatus of a hydraulic shock absorber according to claim 4, wherein the projection of the nut comprises a flange-like entire-peripheral projection extending over an entire

periphery of the outer periphery of the nut.

11. The bottom valve apparatus of a hydraulic shock absorber according to claim 3, wherein the projection of the nut comprises
5 partial projections disposed along a plurality of positions in a peripheral direction of the outer periphery of the nut.

12. The bottom valve apparatus of a hydraulic shock absorber according to claim 4, wherein the projection of the nut comprises
10 partial projections disposed along a plurality of positions in a peripheral direction of the outer periphery of the nut.

13. The bottom valve apparatus of a hydraulic shock absorber according to claim 1, wherein partial projections are disposed along a
15 plurality of positions along the outer periphery of the fixing member, and the centering projection in the inner periphery of the check valve is supported by the partial projections of the fixing member.

14. The bottom valve apparatus of a hydraulic shock absorber
20 according to claim 13, wherein the fixing member is constituted by a bolt and a nut screwed with the bolt, the partial projections are disposed along a plurality of positions along the peripheral direction of a portion brought into contact with the bottom piece adjacent an underhead side of the bolt, and the check valve and the spring are
25 previously subassembled in the bolt.

15. The bottom valve apparatus of a hydraulic shock absorber

according to claim 14, wherein the spring comprises a coil spring.

16. The bottom valve apparatus of a hydraulic shock absorber according to claim 1, wherein a stop ring is disposed along an outer
5 periphery of the fixing member, and an inner periphery of the check valve is supported by the stop ring of the fixing member.

17. The bottom valve apparatus of a hydraulic shock absorber according to claim 16, wherein the fixing member comprises a rivet, an
10 annular groove is provided in an outer periphery of a portion brought into contact with the bottom piece adjacent an underhead side of the rivet, and the check valve and the spring are previously subassembled in the rivet by locking the stop ring with the annular groove.

15 18. The bottom valve apparatus of a hydraulic shock absorber according to claim 17, wherein the spring comprises a coil spring.